CHURCH WINDOW GUARDS

This brief paper, dealing with the most common types of church window guards to help in the fight against vandalism, is based on experience gained over a number of years. It also draws on other papers, written or presented at conferences and discussions of associated problems with architects, structural engineers, stone masons, stained glass studios and with members of DACs and PCCs.

It should be noted that the guards discussed in this paper are for the protection of glass from casual vandalism and not for deterring unauthorised entry. It is a mistake to assume that window guards will prevent burglary.

The initial thought on installing some form of guard comes from the desire to protect windows in the best way possible. It is important that any system used should show the greatest regard to the architecture and must do as little harm as possible to the fabric, both in the long and short term. A good test of the latter is to look hypothetically forward to happier times when guards could be taken down again. At that future time there should be little trace of there ever having been guards in place. In other words, the process should be reversible.

It should always be established at each church whether it would be feasible not to have any guards at all. All guards compromise the architecture to a greater or lesser extent; the only real solution to the problem of vandalism is to attempt to re-educate those responsible; to involve them in the life of the church and so on. There is evidence to support the theory that attempts at providing security actually encourage acts of destruction. For example, if some, but not all windows are guarded, the attacker's attention is drawn to those unguarded.

Types of guard

There are a number of types of guard commonly used to protect church windows.

- Galvanised ferrous metal wire guards

  While in many ways wire guards provide a useful solution to the problem, the following points should be taken into account:

  a) They call to mind an industrial building, or maybe a jeweller's shop, and can seem inappropriate to a place of worship;
  b) The feeling that they are out of context is exaggerated if a silver/grey finish is used, but greatly reduced if they are finished in black.
  c) Unless regularly maintained, they will rust and this can cause serious staining to stonework. The damage can be irreversible, short of major stonework repairs. Cases are known where rust has penetrated one-and-a-quarter inches (32mm) into the stonework.

d) They can be visible from the inside, looking out: in the case of leaded lights, the building becomes a 'cage'; and in the case of stained glass, the lightly painted windows can be compromised by a grid of unwanted lines.
e) If fitted over whole multi-light windows, including mullions, tracery etc, the appearance is dreadful: they should always be fitted to each light separately.
f) They reduce the transmitted light.
g) They do not give protection against someone armed either with an airgun or with a hammer in one hand and a spike (e.g. screw driver) in the other.

❖ Non-ferrous wire guards

The additional points to make about guards in non-ferrous wire are as follows.

a) All the points listed above apply equally to copper guards. The only difference is that the staining will be green rather than red.
b) The cost of guards in copper or stainless steel is higher than those in galvanised steel.
c) Stainless-steel wire guards secured with stainless fittings eliminates the problem.
d) Because the raw material is more expensive than galvanised wire, manufacturers will sometimes skimp on the specification and produce a guard lacking in rigidity.

❖ Powder-coated wire guards

The technique known as powder coating gives good protection to ferrous-wire guards and offers a longer life span than the galvanising process. There is a real architectural advantage to the black finish of powder-coated guards. The outer surface of stained glass naturally has an overall black finish and so the guards to some extent 'disappear'.

The top of the range wire guard is one made of stainless steel *and* powder-coated in black.

❖ Polycarbonate guards

When shields of polycarbonate were introduced, a number of grave mistakes were made both in the design of the guards and the fittings. Amongst these were:

a) It was being fitted in large sheets covering stonework as well as glass, which was aesthetically and technically unacceptable. Sometimes sheets of only 4mm thickness were used.
b) Due consideration of the large coefficient of expansion (0.5%) was not given, so that buckling and damage occurred. Although polycarbonate is virtually indestructible by the action of external forces, it can break itself up, if restrained, by the internal forces of expansion.
c) The buckling led to dreadful distorted reflections of light.
d) The fittings used were of poor quality materials, such as aluminium.
e) The sheets were sealed into the wall or into frames, thereby producing unventilated cavities. Often the frames were of poor quality materials. (Possibly the function of

protection against damage was confused with that of double-glazing). Sometimes the polycarbonate was introduced as a misguided alternative to restoring a leaking window.

f) The large sheets fitted by contractors with all their equipment and manpower were difficult to remove for access.

The design of polycarbonate guards can be greatly improved, technically and visually, if the following standards apply.

a) The guards are made of 6mm thick polycarbonate sheet.
b) The guards are cut to exactly the same shape as the 'sight size' of the glazing; all stonework is exposed and the area of reflection is reduced to a minimum and confined to areas where, visually, glass is expected anyway.
c) They are fixed on brackets of unpolished stainless steel with fittings of stainless steel and nylon. The fittings allow for the expansion of the polycarbonate. No frames are to be used.
d) The guards are made in small panels that can be removed for access if needed and which allow for a free flow of air round, thereby not encouraging the problems of condensation or the growth of organic matter. Each panel of polycarbonate might be, say, only 36 inches by 18 inches and, conceptually, these small units relate well to other 'building bricks'. Thus, the modern material is less at odds with the architecture of the building.
e) This design (see (d) above) also allows for expansion with temperature. The spacing between adjacent panels should be 10mm.

There remain drawbacks as follows:

a) The reflection of light gives the building an unpleasant 'blind' look. This is somewhat more acceptable if the plane of the sheet material is preserved and the reflections undistorted. The problem is not so apparent at the more sheltered windows of the church.
b) The polycarbonate can be deliberately scratched or disfigured with graffiti.
c) Unlike wire guards, the long-term properties of polycarbonate are not known. Possibly they will last for twenty years. An investment in these might well not be as sound as an investment in stainless steel wire guards that (if well maintained) are likely to put in at least a hundred years' service.
d) They are visually much less attractive than stainless steel wire guards, and can seriously impact upon the architecture of the church.

The option of not guarding

The deliberate option of leaving windows unguarded is a sensitive matter and each case must be taken on its merits. At the two extremes, leaded lights could well be left unguarded, whereas particularly rare or beautiful stained glass should be guarded. Again, guarding is more appropriate in some localities than in others.

For this approach to be effective, it must be accompanied by an untiring but rewarding campaign aimed at helping the offenders who might have broken the windows in the past. In our experience, a young age group causes most damage: this area of activity, touching as it does on sociology and pastoral matters, is beyond the scope of this paper. It could well form the subject of research.

Supporting measures

Whether or not guards are fitted, the following supporting measures are paramount:

a) The church should have in safe keeping a thorough photographic record of the stained glass, preferably in the form of colour slides, both overall views and details. This procedure is being increasingly recommended by the insurance companies and might one-day become mandatory. There is now a plan to set up a national archive of all such photographs. It is both more feasible and less costly to repair a stained glass window if good photographs exist. The DAC produces a separate note on the photographing of stained glass windows.
b) The churchwardens and cleaning volunteers should be made aware of the importance, follow a breakage, of collecting and saving every fragment of broken glass and lead, both inside and outside. This needs to be 'written into the constitution' so that the principle is not lost as personalities change.
c) The church should review its insurance cover.

Conclusions

No design of guard is perfect. The only completely acceptable state of affairs would be to have unguarded windows in the context of a society whose members were not reduced to causing damage.

Our order of preference is:

1) No guards at all;
2) Stainless-steel wire guards (preferably black finished);
3) Black powder coated steel wire guards
4) Correctly designed polycarbonate guards.

Costs

Polycarbonate and stainless steel wire guards are of approximately equal cost and steel wire guards are the cheapest. Powder coating adds about 5% to the cost.