Double glazing in listed buildings

The tension between energy conservation and heritage conservation is familiar territory for many listed building owners, not least when it comes to installing double glazing. In this article I explain some of the myths surrounding double glazing as well as some of the pitfalls and alternative approaches which might be appropriate where new double-glazed windows are not an option.

Windows are an essential part of a building’s history and architectural appeal. Perhaps more than any other feature of an elevation they bear witness to the architectural taste and technical advances of their time. They are often the single element which most serves to establish the character or date of a listed building.

However, pressure to reduce heat loss and increase thermal efficiency to increase security and to ‘update’ our homes is considerable. So much so that many fine historic windows have been lost or compromised as a result of well-meaning but harmful alterations. We can all bring to mind the ill-conceived or aesthetically damaging replacement windows which mar a favorite elevation or historic street.

The BASIS FOR DECISION MAKING: GOVERNMENT POLICY AND GUIDANCE

Most proposals for adding double glazing to a listed building are alterations which affect architectural or historic character so they require listed building consent. In times past some authorities took the view that secondary double glazing had little impact and were sometimes prepared to accept that consent was not required but few are so accommodating today.

All such applications for listed building consent are determined by the local planning authority who are required by statute to have special regard to the desirability of preserving the listed building or any features of special interest. The presumption does not extend to windows which have no special interest.

Policy in England is contained in the National Planning Policy Framework which states that when considering the impact of a proposed alteration to a listed building great weight should be given to the building’s conservation. The more important the asset, the greater the weight should be.

HISTORIC ENGLAND GUIDANCE

Historic England has recently updated its helpful guidance entitled ‘Traditional Windows: their care, repair and upgrading’ (2017) which specifically addresses the subject of thermal upgrading of windows and double glazing. It describes that assessing the significance of a window and understanding the contribution it makes to the significance of the building is the key first step in deciding the correct approach to any alterations or upgrading. Where historic fenestration survives, Historic England explains that it is often an irreplaceable resource that should be conserved and repaired wherever possible. It describes how to determine the architectural and historic significance of windows so that decisions about altering them can be made in an informed way.

Thermal upgrading of windows is considered in some detail. Historic England refers to recent research which has shown that by using secondary glazing with low emissivity coating, heat loss can be reduced by over 60%. It does not rule out the use of double-glazed windows in listed buildings but explains that conventional double-glazed units which are between 22 and 28mm thick, or slim profile double-glazed units which are between 10 and 16mm thick, differ from traditional glass which is normally between 2 and 3mm thick.

Consequently, double-glazed units are many times heavier and many times thicker than the original glass. In practical terms, it is often impossible to replace existing glass in multi-paneled historic windows even using slim profile double-glazed units without having to alter the frames and glazing bars to accommodate the increased thickness and weight of the glazing. For this reason it is likely to cause serious harm. However, there are circumstances in which Historic England considers that the addition of double-glazed units to existing windows may be considered acceptable, including the following:

- Where a historic window retains no significant glass, has sufficiently deep glazing rebates and is robust enough to accommodate the increased thickness and weight of double-glazed units without significant alteration (for example late Victorian or Edwardian ‘one-over-one’ sash windows or a simple casement).
- Where an existing replacement window of sympathetic design is to be retained and is capable of accommodating double-glazed units.
- Steel windows that are able to accommodate slim double-glazed units.

The guidance goes on to describe situations in which the significance of a listed building has already been harmed by the installation of poor windows of non-historic design. In these situations Historic England says that consideration may be given to the installation of new slim-profile double-glazed replacement windows where:

- The new windows are of a more sympathetic design and the net impact on significance will be neutral or positive.
- No incidental damage to the building fabric will result from the removal of the existing windows.

In the situations where double-glazed units are not considered appropriate, adding secondary glazing is often an acceptable alternative. Secondary glazing is a fully independent window system installed to the room side of the existing windows. The original windows remain unaltered so secondary glazing is often considered the most appropriate type of double glazing where the windows are historically significant.

Historic England are the government’s advisers on heritage conservation – consequently their published guidance carries considerable weight in determining applications for listed building consent.

If you are applying for listed building consent for any type of double glazing it is well worth familiarizing yourself with the Historic England guidance documents (listed at the end of the article). At the very least, it will help you to understand how conservation principles are applied to historic windows and how best to make the case if you are applying for listed building consent. If your proposals for double glazing fall squarely within the guidance, you may well want to quote it in support of your application.
LISTED BUILDING CONSENT AND DOUBLE GLAZING

It is your local planning authority which will determine any application to alter windows in a listed building. Some councils have prepared their own helpful design guidance on double glazing in listed buildings and all will have published planning policies aimed at safeguarding significant architectural features on listed buildings and in conservation areas. However, when it comes to determining listed building consent applications for double glazing there is no consistent approach across the country. Some seem to have little regard for the Historic England guidance and take the view that double-glazed units should be refused and only secondary glazing is ever acceptable in a listed building. In considering such decisions at appeal the Secretary of State (represented by the Planning Inspectorate) takes a more considered view and will inevitably attach weight to Historic England’s published guidance.

Historic England has a helpful booklet called ‘The installation of replacement double-glazing in historic buildings — design guidance for listed buildings’ which sets out the planning context and offers a helpful list of do’s and don’ts. The booklet stresses that double glazing is a sustainable and cost-effective method of improving the performance of historic buildings and it is also a valuable contribution to the successful preservation of the historic fabric of the building. It recommends that double glazing should be considered as part of a comprehensive programme of improvements to historic buildings.

Recent guidance is also available from Historic England’s website which covers all aspects of double glazing in historic buildings. The guidance stresses that double glazing ‘should be considered as part of a comprehensive programme of improvements to historic buildings’.

LISTED BUILDINGS REQUIRE DOUBLE GLAZING

The local authority determines the need of secondary glazing, as the major function of double glazing is to reduce heat loss through windows. In traditionally constructed buildings, typically 60% of heat loss is through walls and roof (35% and 25% respectively). 15% is due to draughts and only 10% is through windows (some sources say 10% and 20% depending on the size, type and condition of the windows). Windows in traditional buildings tend to be relatively small which means that the effect of double glazing on reducing heat loss is also correspondingly small. It follows that it is important to understand that there is little point in tackling heat loss through windows (the 10%) if you have not first dealt with heat loss through the roof and drafts (40%).

SECONDARY GLAZING VERSUS DOUBLE GLAZING

Some authorities (for example, the City of London Corporation) have a policy which states that secondary glazing should be installed instead of double glazing. However, this is not always the case, as there are several factors to consider when deciding whether to install secondary glazing or double glazing.

EXEMPTION FROM THE BUILDING REGULATIONS

Listed buildings, whatever their grade, are expressly exempted from the need to comply with the energy efficiency requirements of the building regulations where compliance would unacceptably alter their character and appearance. It is always advisable to speak with the building inspector before proceeding with replacement windows to ensure that the exemption applies in your particular case.

Further reading:

- Traditional Windows their care, repair and upgrading. Historic England, 2017