Technical Note No. 8

SELECTION OF WINDOWS - a checklist for specifiers

Introduction

The specification of windows is an area where many issues need to be considered in order to arrive at the best solution. This note simply lists the items that the Specifier might need to consider, possible alternatives and the role of relevant British Standards.

Window specification may be divided into six key areas:

1 Aesthetic needs

2 Performance requirements

3 Environmental concerns

4 Health and safety issues

5 Installation requirements

6 Maintenance requirements

Each of these may be further subdivided into several areas, sometimes depending upon the frame material, as follows.

Aesthetic needs

Frame material

There are four key materials, namely aluminium, PVC-U, steel and timber. However, these materials may be used in combination (composite frames), and there are also a number of new materials, such as fibreglass and pultruded resins.

Aluminium is available in the form of various alloys, such as 6063 in various tempers complying with BS 1474. Although originally a single aluminium extrusion, these frames usually now incorporate a plastic thermal break to reduce heat loss. A wide range of finishes is available, including natural and coloured anodising and an extensive range of coloured polyester powder coatings. Aluminium alloy windows should be specified according to BS 4873.

PVC-U frames are made from extrusions of plastic, possibly including some recycled material, which are heat fusion welded at the corners to form the frame. PVC-U extrusions usually incorporate an aluminium or galvanised steel hollow section within the central chamber to increase stiffness and provide a stronger base for fixing hardware. PVC-U frames were traditionally only available in a natural white finish, but are now available with a range of coloured finishes, typically applied as a foil covering, which may also have a simulated wood-grain finish. Body-coloured PVC-U is also available. PVC-U windows should be specified according to BS 7412.

Steel frames are either fabricated from hot-rolled strip (non-thermally-broken) or made from cold-formed sheet (often thermally broken with a plastic or foam insert) - the hot-rolled type is predominant in the UK, and the cold-formed type is dominant in the rest of Europe. Steel windows are hot-dip galvanised to help