

Weathertightness of windows, doors, window assemblies and curtain walls

Windows may be installed in buildings as individual windows but may also be coupled together to form assemblies. Extensive window assemblies are considered a form of curtain walling which should be designed accordingly however disputes arise over:

- when a window assembly becomes a curtain wall,
- and
- requirements for the joining details of other window assemblies.

These issues are heightened by the higher weathertightness requirements that are often applied to curtain walls.

This Technical Note gives guidance on the requirements for window assemblies and suggests a consistent approach to design and performance assessment.

The satisfactory performance of windows depends on appropriate detailing of interfaces both within a glazing/panel system and connecting it to the surrounding construction. This Technical Note deals with the performance of interfaces between windows and panels of an assembly, and between windows and curtain walling. Other interfaces are outside the scope of this document.

This Technical Note also highlights the requirements of the National House Building Council (NHBC).

Introduction

A window is defined in EN 12519 as a 'building component for closing an opening in a wall or pitched roof that will admit light and may provide ventilation'. This definition does not set any limit on the size of a window but windows are normally produced in a factory and size is limited by practical constraints of transport and handling. A window may contain a number of glazed openings within an enclosing frame.

Windows may be installed in buildings as individual windows within a wall. Windows may also be installed as assemblies of various forms including:

- A horizontal ribbon of windows one window high
- A storey height assembly of windows and opaque panels more than one window high and wide set between the floor slabs
- A vertical ribbon of windows one window wide that may extend across the floor slabs and may be connected by panels that form part of the system assembly
- An assembly of windows more than one storey high and more than one window wide that is continuous across the front of

the floor slab and may include spandrel panels that form part of the system assembly.

The use of windows in assemblies places additional demands on the windows and requires jointing details to be developed. Extensive window assemblies are considered a form of curtain walling which should be designed accordingly. An assembly of windows more than one storey high and more than one window wide that is continuous across the front of the floor slab is considered to be a form of curtain walling.

The specification of weathertightness of windows in the UK is usually based on the recommendations given in BS 6375-1 which refer to the classification system given in EN 14351-1 whereas curtain walls are generally specified following the guidance in the CWCT Standard for systemised building envelopes which refers to the classification system in EN 13830. The requirements of the CWCT Standard are higher than those in BS 6375-1. This can lead to different components of the same building having different levels of performance.