Shadow Boxes

Shadow boxes have been used in curtain wall construction for a number of decades. Their use is becoming more widespread, not just in commercial buildings as before, but also in residential construction. This has prompted insurers such as the NHBC to take a keener interest, and this Technical Note is in response.

This Technical Note discusses the principles of shadow box construction and the key design considerations. When discussing factors such as condensation, it is done in the context of a UK-type climate.

Introduction

A shadow box generally consists of:

- Clear glazing,
- A cavity behind the glazing,
- An insulated panel/tray.

A shadow box should not be confused with a glazed spandrel panel. One of the key features of a shadow box is the cavity behind the external glazing, Figure 1 below. Glazed spandrels may also contain a cavity in this position or alternatively the insulation will be tight up against the external glazing.

A further difference is with the type of glazing used; shadow boxes generally use transparent glass, whereas glazed spandrels use opaque glass (painted, fritted, etc).

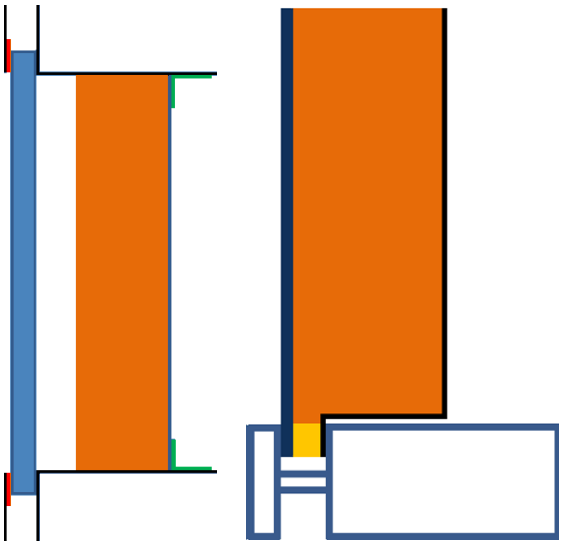

Figure 1 – Shadow box (left), glazed spandrel (right)

Glazed spandrel panels are beyond the scope of this Technical Note.

Shadow boxes are used for the particular appearance they give. The cavity behind the glazing adds depth to the appearance, creating greater visual interest than can be achieved with a more typical glazed spandrel. In addition they allow the use of the same glass as that used in the vision areas, thus giving visual continuity between the different zones of the façade.

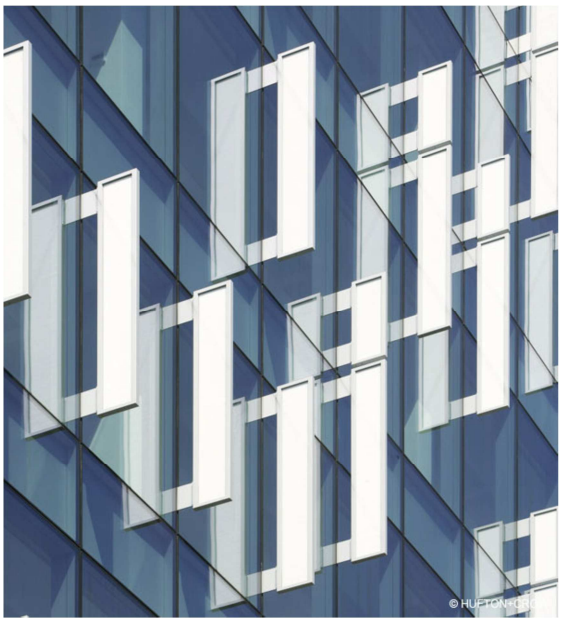

Figure 2 – Shadow boxes at floor slab level

The external appearance of a shadow box will depend on;

- The glass used;
- The depth of cavity,
- The colour and material used to form the back of the cavity.