

Technical Note No. 29 DESIGN OF CURTAIN WALL BRACKETS

Introduction

Brackets form the link between the curtain wall and the frame. They are of critical importance to the safety of the wall and also have a profound effect on its buildability. Bracket design is normally undertaken by the system fabricator; bespoke connections can account for around 20 per cent of the cost of a curtain walling system when full account is taken of design costs, or the same proportion as the framing members themselves.

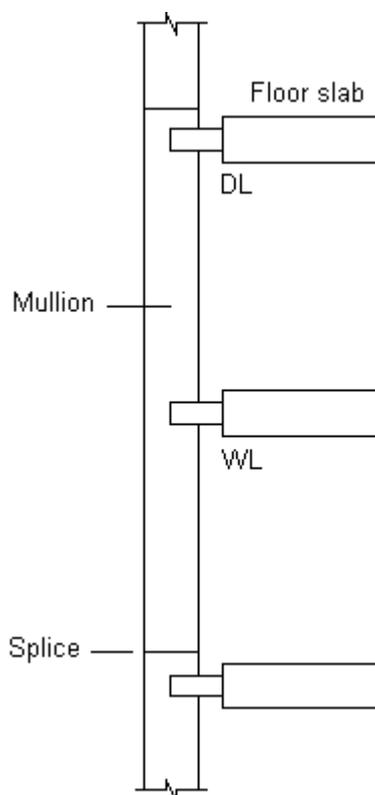
Little or no specific guidance exists on the design of curtain walling connections. Technical Note 28 *Performance requirements for curtain wall brackets* describes the overall requirements for brackets. This Technical Note gives guidance on load bearing aspects of brackets.

Structural systems

The general requirements for brackets are described in Technical Note 28. Figure 1 shows a typical two-storey height mullion section, where the bracket at the head of the section carries both dead load and wind load. The bracket at the intermediate floor carries wind load only. The foot of the mullion is connected to the mullion section below by a splice joint which transmits horizontal (wind) load but does not resist bending and permits vertical movement of one mullion section relative to the other due to thermal expansion.

Figure 2 shows a typical bracket detail at the head of the mullion. The head of the mullion is fixed to a shoe bracket, which is connected to an angle cleat, which itself is bolted to a channel cast into the top of the concrete floor slab.

Alternative arrangements include fixing the shoe bracket to a channel cast into the outside face of the slab and using drilled fixings rather than cast in channels for the connection to the concrete slab.



DL = dead load connection
WL = wind load restraint

Figure 1 Fixings of a continuous, hung curtain wall

A single slotted hole and two circular holes have been provided in the shoe-bracket. The single slotted hole will serve to carry a bolt to be used