

**Technical Note No. 28**  
**PERFORMANCE REQUIREMENTS FOR CURTAIN**  
**WALL BRACKETS**



## Introduction

Brackets form the link between the curtain wall and the structure. They are of critical importance to the safety and serviceability 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 the design costs, or the same proportion as the framing members themselves.

This Technical Note highlights the performance issues relevant to the design of brackets supporting curtain walling. The principles discussed in this Technical Note are applicable to brackets for all types of curtain walling but the examples discussed relate to stick curtain walling where the primary load bearing elements that must be supported are mullions.

SCI publication 101 describes curtain wall connections in more detail with greater emphasis on panellised systems.

## Performance criteria

Brackets for fixing curtain walling are required to fulfil some or all of the following functions:

- Transfer loads from the curtain wall to the structure;
- Accommodate induced deviations (tolerances);
- Accommodate inherent deviations (movements);
- Resist corrosion;
- Resist fire;

- Be quick and simple to fix, adjust, inspect and maintain (buildable).

## Loads

Vertical forces due to dead loads and horizontal forces due to live loads are transferred to the structure by the brackets.

- Dead load

The precise weight of the cladding will be determined as the design is developed, but early estimates need to be realistic to prevent lengthy re-design of the support members. This requires a knowledge of the type of cladding system, materials, wind load and grid dimensions.

The curtain wall is normally supported in front of the supporting structure with a buffer zone to accommodate tolerances. The line of action of the load will therefore be in front of that of the support and bending and/or torsional stresses will be induced in the connecting bracket.

- Live load

Wind loads in the form of negative (suction) or positive pressures are usually the dominant load case, with negative pressures at, for example, corners twice the magnitude of positive pressure at the centre of the windward face. Wind loads are determined by the site location and surrounding terrain, the shape of the building, local effects (e.g. sharp corners) and the size and location of openings.

Live loads resulting from building occupancy and maintenance are usually less