

AA®110 65mm Curtain Wall System

Introduction

The AA®110 65mm curtain wall system is designed as a stick-frame assembly with weather performance achieved by drainage and ventilation of the glazing rebates. Drainage and ventilation occurs at every mullion and transom connection in a zone drained system and at the base and above mullion joints in a mullion drained system. The system is available in a variety of mullion depths which combined with several thermal break options and aesthetic external capping provide flexibility of design, outstanding performance and ease of installation to suit individual project requirements.

The AA®110 is suitable for vertical and sloped applications including faceted walls. A deeper glazing rebate meets the requirements for barrier loading and enables facades to stand up to high levels of building movement.

Allowances for slab deflection of +/- 15mm can be achieved. Large glass panels can be used allowing more natural light penetration. In addition, less metal results in an aesthetically pleasing building – on the whole better for both the environment and the building occupier.

The system has been exclusively designed, developed and supplied by Kawneer, with installation contracts carried out by approved Dealers.

Design Considerations

A comprehensive range of mullions and transoms allow façades to be designed with minimal structural support. The selection of mullion is dependent on several factors:

- The span (the distance between the fixings to supporting structure)
- The mullion centres (up to 3.5m using AA®110 curtain walling)*
- Windload (up to 2400 Pa)
- Maximum weight of infill (up to 600kg)
- The deflection limitations of the glazing system
- The drainage method required; i.e. zone or mullion
- Floor slab live load deflection

Guidance on this element of the curtain wall design should be sought from the Kawneer Architectural Services Team.

* For mullion centres greater than 3.5m contact the Technical Services Team at Runcorn.

Product Features and Benefits

- Concealed zone drainage – each pane acts as an individual self-draining unit or mullion drainage – ventilation and drainage via the mullions
- Fully capped (zone drained and mullion drained with wide choice of facecap options)
- Bespoke face caps available (subject to approval)
- Glazing up to 50mm
- Thermal performance to meet or exceed current Building Regulations
- Incorporates AA®130 Brise Soleil System

- Tested and certified in accordance with CWCT Sequence B
- Range of mullion, transom and face cap options with 65mm sightlines
- Facilitates the integration of opening window products including a concealed vent option
- A range of thermal break options are available
- Offers a cost effective solution for barrier loading
- Floor slab live load deflection of +/- 15mm is achievable**

** Contact the Technical Services Department at Runcorn for advice.

AA®110 HC/VC (Horizontal/Vertical Cap)

The Horizontal/Vertical Cap provides the specifier the opportunity to highlight the horizontal or vertical features across the building envelope and gives the building its individual signature. The variety of distinctive face caps gives total flexibility in design. The system has been exclusively designed, developed and supplied by Kawneer, with installation contracts carried out by approved Dealers.



AA®110 Large Movement Joint

Increased Building Movement Allowance

Introduction

Glazing and cladding systems need to be designed to allow for building movement without compromising the performance or safety of the system.

The consequences of failing to provide sufficient allowance for in-service building movement can range from a reduction in weather performance to glass breakage and significant system failure.

One of the main complexities in designing a façade is the accommodation of slab movement/deflection.

Due to the extension of structural spans seen in today's building designs, slab deflection is increasing. This places additional demands on the façade design team to accommodate movement between slab and façade.



When building designs require façades to withstand high slab deflections one solution is to incorporate unitised curtain wall systems which, due to their construction, can provide greater movement allowance. However, unitised curtain walling is most appropriate for large façades and are generally only undertaken by specialist fabricators and installers.

Conventional stick curtain walling is widely specified in the UK and offers a cost-effective façade solution particularly on buildings which do not have a requirement for significant movement allowance.

AA®110 Large Movement Joint

Kawneer have recognised that a capacity for greater movement allowance within a stick curtain walling system would extend the scope of applications for which such systems can be specified. The AA®110 has been developed to accommodate up to +/-15mm differential vertical movement between the façade and the supporting sub-structure.

This has been achieved through the design of an expansion joint for connecting vertical mullions. The joint, located at each slab level and therefore concealed by spandrel glass or panels, uses specialised engineered foam seals which expand and contract with the movement of the structure. In conjunction with this, a unique transom profile at each floor level provides allowance for the increased movement of the spandrel infill whilst maintaining air and weathertightness of the façade. Also incorporated into the design is a bespoke breather membrane which directs any ingress into the glazing rebates to the internal drainage channels.



CWCT Dynamic Test

The system has undergone rigorous testing during its development to ensure performance in all UK conditions. Working closely with the CWCT an enhanced version of the Standard for Systemised Building Envelope: Sequence B test program was successfully carried out. This included testing while the expansion joint was in compression, extension and in the neutral position.

Technical Support

Kawneer offers a Façade Workshop consisting of a team of specialists who work collaboratively with developers, architects and engineers during the early stages of a project. This unique design and consultancy service, working across every aspect of the façade, ensures the design intent is realised on all projects.