



Certification Performance Criteria Guidance

B5.2 Building Envelope – Fixings and Supports (including purlins, sheeting rails, etc.)

Performance Criteria

Certifiers shall satisfy themselves that adequate details of the fixings and supports for the external envelope of the building have been prepared and that there are sufficient calculations or other evidence to demonstrate the strength and durability of the design.

Background

The building envelope will require to support its own weight, transfer wind loads into the structure and remain attached to the building under the effects of wind load.

The fixings and supports to the cladding are critical the performance of the building envelope.

The Standing Committee on Structural Safety (SCOSS) has highlighted a number of potential problems arising from deficiencies in design of elements of the building envelope and these can pose a serious risk to the health and safety of people in and around buildings.

Guidance

The envelope of a building often comprises a series of mutually dependent elements, and it is the fixings and supports that provide important links in this chain. Failure of one link can cause failure of the entire system.

Items to be considered when certifying the fixings and supports to the building envelope are:

- Fixings between the cladding material and the structure supporting it
- The supporting structure. Often this will comprise secondary elements such as cladding rails, intermediate posts, roof purlins, wind posts, glazing mullions and transoms, etc.
- The connections between any secondary supports and the main structural elements
- The fixings between large glazing units and their supporting frames
- Wall ties within masonry walls and between masonry cladding and its supporting structure

Often glazing systems can be made up of a series of individual units and it is important that adequate fixings and supports are provided to ensure that the integrity of the overall system is adequate.

Components must also be durable and their ability to resist the effects of corrosion must be established. SCOSS has highlighted the need for regular inspection of fixings.

Examples of Major Non-conformances

The design of the fixings and supports which form part of the external envelope clearly does not meet Requirements 1.1, 1.2 and 1.3

Absence of suitably checked drawings/details.

Grossly inadequate details of the fixings or supports.

Absence of suitably checked structural calculations, load/span tables, test certification or other justification for the design of any of the fixings and supports

Absence of evidence demonstrating that the Certifier made adequate enquiry regarding the design of any fixings and supports and/or the experience of those undertaking the design where this was prepared by an external specialist/third party.

Examples of Improvement Issues

Inadequate or insufficient details of the fixings or supports.

Insufficient or inadequate calculations or other justification for the design.

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